

components stored in authentication database 29 and the two signal portions of the noisy speech signal from the audio interface 15. The relative distance measure is obtained in order to calculate a mismatch indicative of a noise differential between the noise components present in the training speech data and the noise attributes present in the two signal portions of the noisy speech signal.

Please change the following paragraph of the Specification on page 6, lines 18-25 as follows:

For assessing the speech included in the noisy speech signal based on the relative distance measure, the signal attributes of the two signal portions of the noisy speech signal may be combined into a first collection indicative of signal content. Likewise, the signal and noise attributes of the two signal portions of the noisy speech signal may be combined into a second collection indicative of a signal and noise content. Using both the collections, a compensation ratio of the signal and noise content to the signal content may be calculated. This compensation ratio may be used to determine the mismatch indicative of the noise differential.

Please change the following paragraph of the Specification on page 14, lines 12-23 as follows:

Although the PMC algorithm performs reasonably well in the case of speaker independent speech recognition, the case of speaker dependent speech recognition poses some problems. One problem relates to artificial addition of noise to the training speech data while compensating for the mismatch. In particular, the distance measure may be over compensated, i.e., reduced too

much. Thus, a final score obtained in this manner may be highly dependent on the noise level. Therefore, if the environment is extremely noisy, a substantial amount of the noise may be added to the training speech data. As a result, a comparison between the secret signature and the test utterance may turn out to be a relative distance measure that indicates a significantly small difference between the noise levels present in the secret signature and the test utterance. Accordingly, almost a negligible distance measure may be attributed to the significantly small difference between the noise levels present in the secret signature and the test utterance.

Please change the following paragraph of the Specification on page 17, lines 10-17 as follows:

While applying the parallel model compensation (PMC) technique to evaluate the speech of the noisy speech signal, in one embodiment, the model 70 (Figure 1B) may be readily compensated in response to the relative distance measure in some embodiments. Thus, noise sensitivity may be reduced, as noise robustness is improved to provide better recognition accuracy (i.e., lower false acceptable or higher rejection rate). In this way, the noise compensation application 27 (Figure 1B) may enable more reliable speech processing in speech or speaker recognition systems that may be operating under adverse conditions (e.g., in noisy environments).